

WHAT IS CLAIMED IS:

- 1 1. A backplane, comprising:
 - 2 a front side portion having a plurality of
 - 3 front connector holes organized into a set of front
 - 4 connector segments; and
 - 5 a rear side portion having a plurality of rear
 - 6 connector holes organized into a set of rear connector
 - 7 segments that correspond to said front connector
 - 8 segments,
 - 9 wherein front connector holes of at least one
 - 10 front connector segment and rear connector holes of a
 - 11 rear connector segment that corresponds to said at least
 - 12 one front connector segment are dimensioned such that
 - 13 said at least one front connector segment and
 - 14 corresponding rear connector segment are electrically
 - 15 separated, whereby said at least one front connector
 - 16 segment and said corresponding rear connector segment are
 - 17 operable to support independent signal pathways.

1 2. The backplane as set forth in claim 1, wherein
2 said set of front connector segments and said set of rear
3 connector segments comprise five connector segments each,
4 said connector segments conforming to the Compact
5 Peripheral Component Interconnect (CPCI) standard.

1 3. The backplane as set forth in claim 1, wherein
2 one of said independent signal pathways comprises a
3 proprietary input/output (I/O) bus system.

1 4. The backplane as set forth in claim 1, wherein
2 connector holes of said at least one front connector
3 segment and said corresponding rear connector segment are
4 physically separated.

1 5. The backplane as set forth in claim 1, wherein
2 two front connector segments and corresponding rear
3 connector segments are physically separated.

1 6. The backplane as set forth in claim 5, wherein
2 said two front connector segments are operable to carry
3 CPCI-compliant signals.

1 7. The backplane as set forth in claim 5, wherein
2 said corresponding rear connector segments are operable
3 to carry at least one user-defined signal.

1 8. The backplane as set forth in claim 1, wherein
2 said set of front connector segments and said set of rear
3 connector segments conform to one of the VME standard.

1 9. The backplane as set forth in claim 1, wherein
2 said set of front connector segments and said set of rear
3 connector segments conform to the MultiBus standard.

1 10. A method for introducing user-defined signals
2 into a Compact Peripheral Component Interconnect (CPCI)-
3 compliant backplane, comprising the steps:
4 providing a front side portion of said
5 backplane with a plurality of front connector holes that
6 are organized into a set of front connector segments;
7 providing a rear side portion of said backplane
8 with a plurality of rear connector holes that are
9 organized into a set of rear connector segments that
10 correspond to said front connector segments; and
11 providing an electrical separation between
12 front connector holes of at least one front connector
13 segment and rear connector holes of a rear connector
14 segment that corresponds to said at least one front
15 connector segment, whereby said at least one front
16 connector segment is operable to support a CPCI-compliant
17 bus for carrying CPCI signals and said corresponding rear
18 connector segment is operable to support an independent
19 signal pathway for carrying at least one user-defined
20 signal.

1 11. The method for introducing user-defined signals
2 into a CPCI-compliant backplane as set forth in claim 10,
3 wherein said electrical separation is effectuated by way
4 of disposing a predetermined physical separation between
5 said front connector holes of said at least one from
6 connector segment and said rear connector holes of said
7 corresponding rear connector segment.

1 12. The method for introducing user-defined signals
2 into a CPCI-compliant backplane as set forth in claim 10,
3 said wherein at least one user-defined signal comprises
4 a Super Frame Indicator (SFI) signal operable to control
5 the operation of a telecommunications rack in which said
6 backplane is deployed.

1 13. The method for introducing user-defined signals
2 into a CPCI-compliant backplane as set forth in claim 10,
3 said at least one user-defined signal comprises an
4 Extended Alarm Signal (EAS) operable to carry a plurality
5 of alarms generated in the operation of a
6 telecommunications rack in which said backplane is
7 deployed.

1 14. A connector system, comprising:
2 a Compact Peripheral Component Interconnect
3 (CPCI)-compliant backplane having a plurality of slots,
4 each slot including five front side connector segments
5 (denoted herein as P1 through P5) and five rear side
6 connector segments (denoted herein as rP1 through rP5)
7 that correspond to said front side connector segments,
8 wherein connector holes forming said P1 and P2 connector
9 segments are electrically separated from connector holes
10 forming said rP1 and rP2 connector segments;
11 a front side card coupled to said backplane at
12 a particular slot, said front side card operating to
13 carry a plurality of CPCI signals via a front side
14 backplane bus formed to couple said P1 and P2 connector
15 segments of said slots; and
16 a rear side card coupled to said backplane at
17 said particular slot's rear side connector segments, said
18 rear side card operating to carry at least one user-
19 defined signal via a rear side backplane bus formed to
20 couple said rP1 and rP2 segments of said slots.

1 15. The connector system as set forth in claim 14,
2 wherein said at least one user-defined signal is provided
3 from said rear side card to said front side card via a
4 coupling from between said P3 and rP3 connector segments.

1 16. The connector system as set forth in claim 14,
2 wherein said at least one user-defined signal is provided
3 from said rear side card to said front side card via a
4 coupling from between said P4 and rP4 connector segments.

1 17. The connector system as set forth in claim 14,
2 wherein said at least one user-defined signal is provided
3 from said rear side card to said front side card via a
4 coupling from between said P5 and rP5 connector segments.

1 18. The connector system as set forth in claim 14,
2 wherein said at least one user-defined signal comprises
3 a Super Frame Indicator (SFI) signal operable to control
4 the operation of a telecommunications rack in which said
5 backplane is deployed.

1 19. The connector system as set forth in claim 14,
2 wherein said at least one user-defined signal comprises
3 an Extended Alarm Signal (EAS) operable to carry a
4 plurality of alarms generated in the operation of a
5 telecommunications rack in which said backplane is
6 deployed.

1 20. The connector system as set forth in claim 14,
2 wherein said P1 and P2 connector segments are formed as
3 a monoblock.

1 21. The connector system as set forth in claim 14,
2 wherein said P4 and P5 connector segments are formed as
3 a monoblock.

1 22. The connector system as set forth in claim 14,
2 wherein said connector holes forming said P1 and P2
3 connector segments are dimensioned to receive ultrashort
4 press-in pins formed at a corresponding connector portion
5 of said front side card.

1 23. The connector system as set forth in claim 22,
2 wherein said connector holes forming said rP1 and rP2
3 connector segments are dimensioned to receive ultrashort
4 press-in pins formed at a corresponding connector portion
5 of said rear side card.

1 24. The connector system as set forth in claim 14,
2 wherein an insulating layer is disposed between said
3 connector holes forming said P1 and P2 connector segments
4 and said connector holes forming said rP1 and rP2
5 connector segments.

1 25. The connector system as set forth in claim 14,
2 wherein a physical separation of a predetermined distance
3 is disposed between said connector holes forming said P1
4 and P2 connector segments and said connector holes
5 forming said rP1 and rP2 connector segments.